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INTERIM ACTION MEMORANDUM
ADDENDUM

BURLINGTON NORTHERN
MISSION WYE
CECRA SITE

Montana Department of Environmental Quality

Superfund Program

December 7, 1999

MS



Declaration of Interim Action Memorandum Addendum
Interim Treatment Selection

Site Name, Location and CERCLIS Number

Burlington Northern Mission Wye
Park County, Montana
CERCLIS Number: MTD 980635387

Statement of Purpose

This Interim Action Memorandum Addendum re-evaluates alternatives and selects an interim response action for this site in accordance with the Comprehensive Environmental Cleanup and Responsibility Act (CECRA), §§ 75-10-701 through 75-10-724 (1993), MCA, and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 U.S.C.A. §§ 9601-9675 (1983 and 1995 Supplement), and not inconsistent with the National Contingency Plan, 40 CFR Part 300 (1994).

Statement of Basis

The basis for this decision is described in the Interim Action Memorandum and this Addendum. Documentation for this decision is also contained in the administrative record which was developed in accordance with § 75-10-713 of CECRA and which is available for public review at the information repositories located at the Livingston Public Library in Livingston, Montana State University Library in Bozeman, Montana State Library in Helena and the Montana Department of Environmental Quality in Helena.

Assessment of the Site

Pursuant to § 75-10-711 (1993) of CECRA, the Department finds there has been a release or there is a substantial threat of a release of hazardous or deleterious substances into the environment at the Burlington Northern (BN) Mission Wye site that may present an imminent and substantial endangerment to public health, welfare, or safety or the environment.

Description of Treatment Selection

The selected treatment action for the source of groundwater contamination at the BN Mission Wye site consists of excavating waste and treating it on-site for appropriate off-site disposal. Asphalt-like substance (ALS) will be excavated, neutralized, processed and shipped off-site to a hazardous waste incinerator. Soil is being treated using soil vapor extraction (SVE) to remove contamination before it is shipped to the High Plains Sanitary Landfill in Great Falls. Rocks will be cleaned to on-site remediation goals and backfilled on-site; rocks that do not meet on-site remediation goals will be shipped off-site. Debris, spent carbon and filter cake material will be sampled and shipped off-site to a hazardous waste incinerator or the High Plains Sanitary Landfill.

Declaration

The Department finds, pursuant to § 75-10-721, MCA, that the selected interim action, as part of a total remedial action, will attain a degree of cleanup of hazardous and deleterious substances and control of a threatened release or further release of those substances that assures present and future protection of public health, safety, and welfare and of the environment.

The Department finds that the selected interim action will be consistent with applicable or well-suited state and federal environmental requirements, criteria or limitations (ERCLs), is protective of public health, safety, and welfare and the environment, utilizes permanent solutions, utilizes alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and is cost effective.

Mark Simonich
DEQ Director

Date

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Northern Mission Wye CECRA Site

I. INTRODUCTION AND PUBLIC PARTICIPATION

The purpose of this Addendum is to evaluate and document significant differences between original cleanup technologies selected in the Interim Action Memorandum (IAM) for the BN Mission Wye Superfund site and new cleanup remedies proposed in this draft Addendum to the IAM and to document the selection of alternatives that will be used to complete interim actions at Mission Wye. The IAM was issued by the Department of Environmental Quality (DEQ)¹ in December 1995. This Addendum relies upon and builds upon that IAM and focuses on the selection of alternatives considered.

Based on new information, certain alternatives presented in the IAM have been shown to be technically impracticable to implement. Therefore, this Addendum re-analyzes certain portions of the selected alternative. Section II of the Addendum provides a brief summary of the actions performed to date under the IAM. Section III sets forth revised remediation goals. Section IV of the Addendum evaluates the new proposed alternative against the criteria prescribed in the IAM. Section V sets forth the proposed alternative.

DEQ will present the draft IAM Addendum and draft work plan to the public on December 7, 1999. A 30-day comment period will be held from December 7, 1999 through January 7, 1999 to accept public comments on the draft IAM Addendum and draft work plan. DEQ will respond to public comments on the Addendum in a responsiveness summary and modify activities described and detailed in the work plan accordingly.

¹ Both the DEQ and the Burlington Northern and Santa Fe Railway Company (BNSF) have changed as entities over the last few years. The DEQ was created on July 1, 1995 by consolidating environmental programs from the Departments of Health and Environmental Sciences (DHES), Natural Resources and Conservation and State Lands. The investigations, treatability studies and related documents for the BN Mission Wye site were conducted under the authority of DHES. Documents in the Administrative Record dated before July 1, 1995 refer to DHES; documents in the Administrative Record dated after July 1, 1995 refer to DEQ. The Burlington Northern Railroad (BNRR) changed its name to the Burlington Northern and Santa Fe Railway Company (BNSF) as the result of a merger between the BNRR and the Atchison, Topeka & Santa Fe Railway Company in 1996. Documents in the Administrative Record dated before December 31, 1996 refer to BNRR; documents created after the December 31, 1996 merger refer to BNSF.

For purposes of clarity in this Addendum, the acronym DEQ will be used to refer to the existing Department of Environmental Quality and the former DHES. The acronym BNSF will be used to refer to the existing Burlington Northern and Santa Fe Railway Company and the former BNRR.

As with the IAM, information contained in this Addendum will become part of the Administrative Record. The Administrative Record is available for public review at DEQ located at 2209 Phoenix Ave., Helena, Montana. A partial copy of the Administrative Record is available at the Livingston-Park County Public Library located at 228 W. Callender in Livingston, Montana.

II. SUMMARY OF PREVIOUS ACTIONS UNDER INTERM ACTION MEMORANDUM

Primary contaminants detected in waste streams, soil and groundwater are tetrachloroethene (PCE), trichloroethene (TCE) and total petroleum hydrocarbons (TPH). Contaminated soil contains PCE, TCE and TPH. Asphalt-like substance (ALS) contains TCE and TPH. Based on analytical reports, DEQ has identified the majority of soil and all of the ALS as hazardous waste upon excavation.

Laboratory and field studies conducted in 1994 through 1996 showed thermal desorption could treat waste materials. Pursuant to the Modified Partial Consent Decree between DEQ and BNSF, excavation and thermal desorption of contaminated soil and clay waste commenced in September 1996. Approximately 2000 tons of contaminated soil and clay waste were processed using thermal desorption before the process was terminated. Treated waste material met remediation goals and was disposed of on-site and recovered oil was shipped off-site for recycling. Thermal desorption was discontinued in June 1997 due to safety, equipment, regulatory and scheduling problems. Safety problems included two workers being accidentally burned and other minor worker accidents. Equipment problems included failed metal surfaces due to high thermal stress, inappropriate particulate removal systems, plugged condensation piping and burner problems. Thermal desorption equipment problems resulted in emission control equipment failing to meet conditions and limitations established by DEQ for atmospheric discharges. Safety, equipment and regulatory compliance problems resulted in the decision to terminate thermal desorption in June 1997. The extended time period required to treat each batch of soil resulted in scheduling delays and was also a consideration in terminating the use of thermal desorption.

Upon termination of thermal desorption, BNSF proposed excavation and SVE treatment of remaining contaminated soil, which was a component of the original IAM alternative. Treated soil was shipped to a sanitary landfill. BNSF determined, through field and analytical testing, that contaminated soil could be treated to non-hazardous waste levels [below Toxicity Characteristic Leaching Procedure (TCLP) levels] using SVE. Soil was treated to below TCLP levels and disposed of at the High Plains Sanitary Landfill in Great Falls. However, DEQ discontinued soil SVE treatment and disposal in December 1997 when it learned BNSF had not complied with proper land disposal restrictions (LDRs) certification and notification requirements prior to disposal.

All contaminated soil, clay waste and debris has been excavated. ALS remains on the ground and is primarily confined to an area approximately zero to three feet deep covering about 1/4

acre. No remedial activity, except for SVE treatment of contaminated soil, has occurred at Mission Wye since December 1997.

III. REMEDIATION GOALS

Table 4 identifies remediation goals for the site. Some of the remediation goals required revision due to new federal and State LDRs. With the exception of chlorobenzene (see footnote 4 in Table 4), the addition of the "Soil 1999 new LDR (mg/kg)" column and changing the soil final remediation goal for trans-1,2-dichloroethene from 30 mg/kg to 5 mg/kg, remediation goals listed in Table 4 are equivalent to those listed in Table 9 of the IAM.

Under the preferred alternative, only 1" to 2" and greater than 2" rocks meeting remediation goals will be disposed of on-site; all other excavated waste will be shipped off-site for disposal. The column identified as "Soil 1999 new LDR (mg/kg)" in Table 4 lists new remediation goals for SVE treated soil that will be disposed of in a sanitary landfill. Soil beneath excavated ALS and seep area soil contaminated with ALS will be sampled to determine if soil beneath these areas meet site remediation goals.

IV. EVALUATION AND ASSESSMENT OF NEW DISPOSAL OPTIONS

This Addendum amends the Interim Action Memorandum dated December 8, 1995. Seven remaining waste streams require treatment and disposal. They are identified in Table 1 and include: (1) ALS, (2) soil, (3) debris including rusted drums, (4) seep area soil mixed with ALS, (5) spent carbon, (6) filter cake and (7) rocks separated from ALS, debris and soil. Several of these waste streams were not included in the 1995 IAM because certain waste streams were an unanticipated result of the processes set forth in the 1995 IAM. Many of the waste streams were studied during the RI/FS process or were previously treated so treatment and disposal options are well understood. The Detailed Analysis of Alternatives for Source Control Measures, Mission Wye, Montana (RETEC January 1993) lists some treatment options originally evaluated for the site. Modification and evaluation of treatment options for each waste stream is discussed below.

The IAM evaluated treatment and disposal options against three criteria: effectiveness, implementability and cost. The effectiveness criterion ensures that an alternative will protect public health and the environment. The implementability criterion measures both the technical and administrative feasibility of constructing and operating the interim source control measure. The cost criterion, based on 1992 present worth costs, is sometimes difficult to estimate with great accuracy because uncertainties, such as the exact volume of waste to be treated, associated with the cleanup often remain. All alternatives must ensure overall protection of public health and the environment and comply with Environmental Requirements, Criteria and Limitations (ERCLs).

1) Soil: The selected remedy for soil treatment remains Alternative Number 12- Soil Vapor Extraction. As stated in the IAM, SVE is highly effective for treating VOCs in permeable sands and gravel and is implementable at a low cost. Although SVE proved to be an effective technology and complies with ERCLs, it was determined not to be protective of human health and the environment because it did not provide soil treatment to a level which allowed soil to be returned to the site (due to the proximity of groundwater). Treating soil using thermal desorption also proved not to be technically implementable. Therefore, DEQ proposes to modify Alternative Number 12 with the disposal component of Alternative Number 9 — Excavation, Chemical Fixation, and Off-Site Landfill. Alternative Number 9—implemented without soil vapor extraction as listed in the IAM, did not comply with ERCLs since chemical fixation could not meet the more stringent LDRs. However, SVE, under Alternative Number 12, will meet LDRs specified in Table 4 (Remediation Goals) and allow soil to be shipped off-site for disposal.

Alternative Number 12 with off-site disposal, would contain and reduce the mobility and volume of source material and satisfy the statutory preference for reduction in toxicity and volume. Control or reduction of potential leaching from source material in contact with groundwater is provided by excavating the material, treating it to meet LDRs and disposing of it in an appropriately-licensed landfill facility. This alternative would meet all remedial action objectives and cleanup requirements by treating and then permanently isolating the treated source material. The alternative would provide long-term effectiveness and permanence and reduce the toxicity, mobility and volume of the source material. LDRs would be met.

The cost to treat and dispose of 5600 tons of contaminated soil is approximately \$224,000. Overburden and additional clean soil would be replaced in the excavations. Adequate soil cover to support vegetation would be spread out over the clean soil and revegetated. No technical obstacles for implementation of this alternative are anticipated.

2) ALS: In the comparative analysis of alternatives in the 1995 IAM, Alternative Number 12 - Thermal Desorption, scored the highest (based on effectiveness, implementability and cost) and was selected as the remedy for the ALS. However, as documented in this IAM Addendum, the selected alternative for ALS, Alternative Number 12—Thermal Desorption, proved not to be technically implementable. Alternative Number 11—Excavation / Off-site Incineration, was the only alternative in the IAM to offer equal effectiveness and implementability, but at a higher cost. Therefore, DEQ proposes Alternative Number 11—Excavation / Off-site Incineration as the preferred alternative for the ALS. Alternative Number 9, is not effective on ALS because SVE cannot remove VOCs from the low-permeable material.

Alternative Number 11 specifies excavation of the source material and transportation to an off-site RCRA-permitted hazardous waste incinerator. Overburden and clean fill would be backfilled into the excavation. A soil cover would then be placed over the excavation and the area revegetated. The excavated material would be transported to Safety Kleen in Salt Lake City, Utah, a distance of about 560 miles. Approximately 1200 tons of ALS material would require at least 60 trips to Utah for a total of 33,600 loaded miles.

Alternative Number 11 controls exposure to source material through destruction of the organic compounds through incineration. Control or reduction of potential leaching from source material in contact with groundwater is provided by excavating the material and subsequent thermal destruction. This alternative would meet all remedial action objectives and cleanup requirements by destroying the source material. Incineration would provide long-term effectiveness and permanence and reduce the toxicity, mobility and volume of the source material. LDRs would be met. No technical obstacles to implement this alternative are anticipated. The original estimated cost of \$24,610,942, using 1992 present net worth costs, associated with this alternative is reduced to \$520,800 by limiting incineration solely to ALS. Although the cost to incinerate ALS is high, this alternative is selected because no other technology will effectively treat ALS.

3) Debris including rusted drums: The treatment and disposal option for this waste stream remains as set forth in the IAM: dispose of debris off-site at either a hazardous waste facility or an industrial landfill depending on analytical results. The cost to dispose of debris at the High Plains Sanitary Landfill is about \$12,000 compared to the cost to dispose of debris at a hazardous waste incinerator at about \$240,000.

4) Seep area soil mixed with ALS: As with soil, the selected remedy in the 1995 IAM was SVE. Seep area soil will be excavated. Discrete areas of ALS material will be placed with other ALS material. SVE treatment will be performed on remaining soil. If excavated soil is above regulatory levels (TCLP), DEQ proposes treating soil using SVE with off-site disposal as the preferred alternative for soil, which is consistent with all other soil treatment. Should this soil test as non-hazardous waste (solid waste), DEQ proposes off-site disposal at a regulated solid waste facility, without treatment. This would be consistent with ERCLs. The estimated cost to dispose of seep areas soil at the High Plains Sanitary Landfill is about \$24,000. The estimated cost to treat seep area soil and dispose of it at the High Plains Sanitary Landfill without treatment is about \$18,000.

5) Spent carbon: This waste source resulted from the thermal desorption process (by reducing air emissions). DEQ proposes this waste source be treated similar to the alternative for debris under the IAM. DEQ proposes spent carbon be disposed of off-site at either a hazardous waste incinerator or an industrial landfill or be regenerated, depending on analytical results of the spent carbon. Disposing of hazardous spent carbon at a hazardous waste incinerator and non-hazardous spent carbon at the High Plains Sanitary Landfill or regenerating the carbon are effective and implementable disposal options at a reasonable cost. The cost to dispose of all the spent carbon at a hazardous waste incinerator, regeneration facility or the High Plains Sanitary Landfill is \$5,400, \$2,700 and \$270, respectively.

6) Filter cake: This waste resulted from the thermal desorption process (from filtering recovered oil). DEQ proposes this waste be sampled. Filter cake above regulatory levels (TCLP) will be shipped to a hazardous waste incinerator because it cannot be treated using SVE due to the high oil and grease content (66%). Non-hazardous filter cake will be disposed of at the High Plains

Sanitary Landfill. Disposing of filter cake at a hazardous waste incinerator or the High Plains Sanitary Landfill is protective of public health and the environment, cost-effective and easily implemented. Shipping filter cake to a secure sanitary landfill or hazardous waste incinerator will meet all ERCLs for the site. The cost to dispose of filter cake at a hazardous waste incinerator is about \$21,000. The cost to dispose of filter cake at the High Plains Sanitary Landfill is about \$1,050.

7) Rocks separated from ALS, debris and soil: This waste resulted from the thermal desorption process (by removing rocks prior to thermal desorption). DEQ proposes treating rocks similar to debris under the IAM by decontaminating the rocks and placing them back in the excavation or disposing of the rocks in an appropriate off-site landfill. DEQ proposes high-pressure rock washing to remediation goals and disposal on-site. High-pressure rock washing is effective and technically implementable. The cost to wash rocks is approximately \$16,000.

Tables 1 and 2 list four treatment and disposal options for the seven remaining waste streams. Sample constituents and sampling frequency for each waste stream are listed in Table 3.

V. PROPOSED ALTERNATIVE

ALS AND CLAY WASTE:

ALS will be excavated and transported to a permitted hazardous waste incinerator. Oversized material (rocks greater than 2.0 inches) will be removed from ALS and decontaminated to on-site remediation goals. Soil samples will be obtained to demonstrate that soil beneath ALS excavations meet on-site cleanup levels. Clean fill and rocks will be placed in the ALS excavation, covered with topsoil and revegetated.

SPENT CARBON:

Hazardous spent carbon, which has been generated as a result of site activities, will also be disposed of at a permitted hazardous waste incinerator or regeneration facility. Non-hazardous spent carbon will be disposed of at the High Plains Sanitary Landfill in Great Falls.

CONTAMINATED SOIL:

Contaminated soil will be treated using SVE to non-hazardous and LDR levels before it is shipped to the High Plains Sanitary Landfill in Great Falls. Soil samples will be obtained to demonstrate soil remaining at the bottom of excavations meet on-site remediation goals. Some previously-sampled excavations have been backfilled with clean rock. After sampling, the remaining excavations will be backfilled with clean material, covered with clean soil and revegetated.

SEEP AREA SOIL MIXED WITH ALS:

Seep area soil contains discrete blobs of ALS or clay waste up to three feet in diameter. Discrete blobs of ALS or clay waste will be removed from soil, placed with ALS waste and shipped to a

hazardous waste facility. If necessary, soil beneath the excavated seep area soil will be sampled to determine compliance with remediation goals. After ALS or clay-waste has been removed from seep area soil, the soil will be excavated and placed in SVE treatment units. SVE will treat soil to non-hazardous levels and LDR levels before it is shipped to the High Plains Sanitary Landfill in Great Falls.

ROCKS:

High-pressure washing, which has been effectively used to clean rocks at Mission Wye, will clean rocks to on-site remediation goals. Although rocks are not hazardous waste, they will be pressure washed to on-site remediation goals by using high-pressure steam and water sprays approved as alternative treatment technologies for hazardous debris (40 CFR Part 268.45, Table I). This will reduce or eliminate the amount of contaminants that could leach into groundwater. Cleaned rocks will be used as fill or disposed of on-site. Wash water will be contained, tested and treated with carbon filters, if necessary, to remove contamination. Wash water treated to non-detection levels for VOCs will be disposed of in the spray irrigation system located down gradient from the site. High-pressure washing has already cleaned a large volume of rocks to on-site remediation goals. High-pressure washing is an effective and implementable technology to clean rocks at a reasonable cost.

FILTER CAKE:

Filter cake was generated during site activities by filtering oil recovered from the thermal desorption units. This waste has been characterized as non-hazardous. Filter cake will be resampled; filter cake that passes TCLP will be disposed of at the High Plains Sanitary Landfill. Filter cake that fails TCLP will be disposed of at a hazardous waste incinerator because it cannot be treated using SVE due to the high oil and grease content (66%).

DEBRIS:

Debris that fails TCLP will be disposed of at a hazardous waste incinerator. Debris that passes TCLP will be disposed of at the High Plains Sanitary Landfill.

VI. RECOMMENDATIONS

Pursuant to Paragraph 6.H. of the Modified Partial Consent Decree, Order and Judgement (Cause No. 88-141-H-CCL) between the Department of Health and Environmental Sciences and Burlington Northern Railroad entered in the United States District Court for the State of Montana on April 27, 1990, BNRR is requested to implement the approved work plan for excavation, treatment and final disposition of the source material at the Mission Wye site in accordance with this Interim Removal Action Memorandum as amended by this Addendum.

After source excavation and treatment, groundwater monitoring will be conducted for a period of one to three years to determine if groundwater treatment is necessary. Considering the hydrogeological characteristics of the aquifer, it is expected that natural processes including

attenuation, dispersion, dilution and degradation will occur once the source is excavated and treated and that groundwater remediation goals will be achieved. If groundwater remediation goals are not achieved through source treatment, a groundwater remedy will be implemented, and will be specified in the record of decision (ROD), until remediation goals are met.

VII. REFERENCES

Interim Action Memorandum, Burlington Northern Railroad, Mission Wye CECRA site (DEQ December 8, 1995).

U.S. Environmental Protection Agency. Presumptive Remedies: Site Characterization and Technology Selection for CERCLA Sites With Volatile Organic Compounds In Soils. Directive: 9355.0-48FS. EPA 540-F-93-048. PB 93-963346. September 1993.

U.S. Environmental Protection Agency. User's Guide to the VOCs in Soils Presumptive Remedy. Directive: 9355.0-63FS. EPA 540/F-96/008. PB 96-963308. July 1996.

Vented Pile Pilot Test Work Plan, Mission Wye, Montana (RETEC May 14, 1997).

Work Plan For Interim Remedial Action At Mission Wye Site, Burlington Northern Railroad, Mission Wye, Montana (RETEC July 1996. Work Plan for Interim Remedial Action at Mission Wye site, Cleanup of Remaining Waste Streams (ThermoRetec September 1999)

TABLE 1

TREATMENT OR DISPOSAL OPTIONS FOR MISSION WYE WASTE STREAMS

Waste Stream	Estimated Volume (tons)	Treatment or Disposal Option
1) ALS	1200	Ship to a hazardous waste incinerator.
2) Debris, including rusted drums	400	Sample according to Table 3. Debris that passes TCLP will be shipped to the High Plains Sanitary Landfill in Great Falls. Debris that fails TCLP will be shipped to a hazardous waste incinerator.
3) Seep area soil mixed with ALS	600	Excavate and place discrete areas of ALS with other ALS material; perform SVE treatment on soil. Discrete areas of ALS will be shipped to a hazardous waste facility. Untreated soil that passes TCLP will be disposed of at the High Plains Sanitary Landfill. Treated soil must pass TCLP and LDRs before it is disposed of at the High Plains Sanitary Landfill.
4) Soil	5600	Perform SVE treatment to LDR levels; ship treated soil to the High Plains Sanitary Landfill in Great Falls.
5) Spent carbon	9	Ship hazardous spent carbon to a hazardous waste incinerator or regeneration facility; ship non-hazardous spent carbon to the High Plains Sanitary Landfill in Great Falls or a regeneration facility.
6) Rocks separated from ALS, debris and soil	4000	See Table 2.
7) Filter cake from filtering oil recovered during thermal desorption	35	Filter cake that passes TCLP will be shipped to the High Plains Sanitary Landfill in Great Falls. Filter cake that fails TCLP will be shipped to a hazardous waste incinerator.

TABLE 2

TREATMENT AND DISPOSAL OPTIONS FOR ROCKS

Waste Stream	Estimated Volume (tons)	Treatment or Disposal Option
Greater than 2" rocks separated from soil	1000	High-pressure wash. Handpick ALS, clay waste, debris and grossly contaminated rocks. Sample. Rocks that meet remediation goals will be disposed of on-site.
1"-2" rocks separated from soil	1000	High-pressure wash. Handpick to remove 90% of ALS, clay waste, debris and grossly contaminated rocks. Sample. Rocks that meet remediation goals will be disposed of on-site.
Greater than 2" rocks separated from ALS	1000	High-pressure wash. Handpick ALS, clay waste, debris and grossly contaminated rocks. Sample. Rocks that meet remediation goals will be disposed of on-site.
1"-2" rocks separated from ALS	1000	Sample. High-pressure wash. Handpick ALS, clay waste, debris and grossly contaminated rocks. Sample. Rocks that fail TCLP or LDRs will be disposed of at a hazardous waste incinerator. Rocks that pass TCLP will be disposed of at the High Plains Sanitary Landfill. Rocks that failed TCLP before treatment must pass TCLP and LDRs before disposed of at the High Plains Sanitary Landfill. An effort may be made to high-pressure wash rocks to remediation goals and dispose of on-site.

TABLE 3

SAMPLE METHODS, CONSTITUENTS AND FREQUENCY

Waste Stream	Sample Frequency	Constituents Sampled
ALS	No sampling necessary because material will be shipped off-site to a Subtitle C facility for destruction	
Debris including rusted drums	1 grab sample / 20 tons	TCLP VOCs, TCLP metals ²
Soil 1" to 2" rocks	1 grab sample / 50 tons	TCLP VOCs, total VOCs for LDRs ³ ; TCLP metals for 1st seven samples
TD spent carbon	No sampling necessary because material will be shipped off-site to a Subtitle C facility for destruction	
Water treatment spent carbon	1 grab sample / ton	TCLP VOCs, TCLP metals
SVE spent carbon	1 grab sample / ton	TCLP VOCs, TCLP metals
Greater than 2" rocks	1 grab sample / 200 tons	Total VOCs in Table 3, TPH
Filter cake	1 grab sample / 17 tons	TCLP VOCs, TCLP metals

²EPA Methods include 1311 for TCLP VOCs and metals (7000/6010 series), 8260 for VOCs and 418.1 for TPH.

³Waste streams that fail TCLP for VOCs will be sampled for total VOCs for LDR determination. TCLP metals' analyses will be used to determine if LDRs are met for metals. Based on previous sample results, DEQ does not expect soil to fail TCLP for metals.

TABLE 4

REMEDIATION GOALS

CHEMICAL	Groundwater 1998 WQB-7 Standard ($\mu\text{g/L}$)	Groundwater MCL ($\mu\text{g/L}$)	Soil 1995 LDR (mg/kg)	Soil 1999 new LDR (mg/kg)	Soil Calculated Remediation Goal (mg/kg)	Soil Final Remediation Goal (mg/kg)
Chlorobenzene	100 ⁴	NA	6	60	NA	6
1,2-Dichlorobenzene	600	600	6	60	306	6
1,4-Dichlorobenzene	75	75	6	60	38	6
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
Cis-1,2-Dichloroethene	70	70	NA	NA	3	3
Trans-1,2-Dichloroethene	100	100	30	300	5	5
Tetrachloroethene	5	5	6	60	7	6
1,1,1-Trichloroethane	200	200	6	60	14	6
Trichloroethene	5	5	6	60	0.3	0.3
Total Petroleum Hydrocarbon (TPH)	NA	NA	NA	NA	NA	5000

⁴The standard for chlorobenzene changed from 20 $\mu\text{g/L}$ in the 1995 version of Circular WQB-7 to 100 $\mu\text{g/L}$ in the November 1998 version of Circular WQB-7 (DEQ November 1998).

APPENDIX A

IDENTIFICATION AND DESCRIPTION OF
LEGAL REQUIREMENTS

BURLINGTON NORTHERN
MISSION WYE
CECRA SITE

Montana Department of Environmental Quality

DECEMBER 6, 1999 DRAFT

INTRODUCTION

Remedial actions undertaken pursuant to the Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA), §§ 75-10-701 through 75-10-724, Montana Code Annotated (MCA), must "attain a degree of cleanup of the hazardous or deleterious substance and control of a threatened release or further release of that substance that assures present and future protection of public health, safety, and welfare and of the environment." § 75-10-721(1), MCA.

Additionally, the Montana Department of Environmental Quality (DEQ) "shall require cleanup consistent with applicable state or federal environmental requirements, criteria or limitations" and "shall consider and may require cleanup consistent with substantive state or federal environmental requirements, criteria, or limitations that are well suited to the site conditions." § 75-10-721(2)(a) and (b), MCA.

"Applicable" requirements are those that by their terms meet the jurisdictional prerequisites and apply to a given action, item or characteristic at the site. "Well suited" requirements are those requirements that are not applicable, but address situations or problems sufficiently similar to those at the site that they are well suited for use at the site. Attainment of both "applicable" requirements and designated "well suited" requirements is equally mandatory under CECRA.

In this document, DEQ updates and revises the identified applicable and well suited state and federal environmental requirements for the interim action at the BN Mission Wye Site. The action will involve removal and either on-site or off-site treatment of the substances at the site, followed by off-site disposal for all substances but decontaminated rocks. These actions are described in greater detail in the text of DEQ's Interim Action Memorandum and DEQ's Interim Action Memorandum Addendum.

Environmental requirements, criteria and limitations are generally of three types: contaminant-specific, location-specific, and action-specific. Contaminant-specific requirements are those that establish an allowable level or concentration of a hazardous or deleterious substance in the environment or that prescribe a level or method of treatment for a hazardous or deleterious substance. Action-specific requirements are those that are triggered by the performance of a certain activity as part of a particular remedy. Location-specific requirements are those that serve as restrictions on the concentration of a hazardous or deleterious substance or the conduct of activities solely because they are in specific locations or affect specified types of areas.

In the analysis below, federal and state contaminant-specific and action-specific requirements are presented together, because they present similar and overlapping requirements. Because the site is not located within a floodplain or any known fault, and because actions at the site should not affect any wetlands, fish, wildlife, endangered species, or cultural resources, no location specific requirements are specified for this site.

The standards for off-site disposal are not ERCLs, but are instead independently applicable laws. For off-site actions, all standards, both substantive and procedural must be met. Under CECRA, neither permit exemptions nor waivers are allowed under the law for off-site actions. The "Other

Laws" section at the end of the ERCLs lists certain of the laws which must be complied with for off-site disposal. However, the list is not exclusive. Off-site disposal will be coordinated with the pertinent regulatory bureaus at DEQ.

The description of applicable and well-suited federal and state requirements which follows includes summaries of the legal requirements which attempt to set out the requirement in a reasonably concise fashion that is useful in evaluating compliance with the requirement. These descriptions are provided to allow the user a basic indication of the requirement without having to refer constantly back to the statute or regulation itself. However, in the event of any inconsistency between the law itself and the summaries provided in this document, the actual requirement is ultimately the requirement as set out in the law, rather than any paraphrase of the law provided here.

In addition, the applicable and well-suited federal and state requirements set forth in this document are based on the treatment processes described in the Interim Action Memorandum and Interim Action Memorandum Addendum. Further requirements may be imposed based on actual field equipment or conditions.

CONTAMINANT AND ACTION SPECIFIC REQUIREMENTS

1. WATER QUALITY

The Mission Wye Site is not located near any surface waters of the state. Consequently, no surface water requirements are specified for this site. All water used in treatment processes, such as water used for decontamination, will be treated and discharged on-site in accordance with an approved MPDES permit.

The activities contemplated in this interim action do not include direct remediation of groundwater at the site. Since this is only an interim action, the determination of any groundwater remedy will be made at a later date. However, a discussion of the contaminant-specific groundwater requirements is included here since the remediation goals are based in part on the achievement of groundwater standards and so that this action can be conducted with eventual attainment of these standards in mind. In addition, the interim action must also comply with the action-specific water quality requirements listed below.

A. Groundwater

1. Maximum Contaminant Levels and Maximum Contaminant Level Goals (Well Suited)

Because the aquifer affected by the site is currently and may in the future be used as a drinking water source, the MCLs and non-zero MCLGs specified in 40 CFR Part 141 (Primary Drinking Water Standards) are well suited requirements which are ultimately to be attained by the remedy for the site. See, e.g., 40 CFR §§ 141.61 and 141.62.

2. Montana Groundwater Pollution Control System (Applicable)

ARM 17.30.1006 classifies groundwater into Classes I through IV based upon its specific conductance and establishes the groundwater quality standards applicable with respect to each groundwater classification.

Based upon its specific conductance, the groundwater at the site must meet the standards for Class I groundwater. These standards are applicable. Concentrations of substances in Class I may not exceed the human health standards for groundwater listed in department Circular WQB-7.

<u>Chemical</u>	<u>WQB-7($\mu\text{g/L}$)</u>	<u>MCL ($\mu\text{g/L}$)</u>
Chlorobenzene	20.0	NA
1,2-Dichlorobenzene	600.0	600.0
1,4-Dichlorobenzene	75.0	75.0
cis-1,2-Dichloroethene	70.0	70.0
trans-1,2-Dichloroethene	100.0	100.0
Tetrachloroethene	5.0	5.0
1,1,1-Trichloroethane	200.0	200.0
Trichloroethene	5.0	5.0

B. National Pollutant Discharge Elimination System (NPDES) and the Montana Pollutant Discharge Elimination System (MPDES)(Independently Applicable)

3. Substantive MPDES Permit Requirements (Applicable)

The interim action must receive and comply with the pertinent MPDES permit. All requirements, including the requirement to properly operate and maintain all facilities and systems of treatment and control are independently applicable requirements. All water used in treatment processes must be treated and discharged pursuant to this permit.

4. Causing of pollution (Applicable)

Section 75-5-605 of the Montana Water Quality Act prohibits the causing of pollution of any state waters. Section 75-5-103(21)(a)(i) defines pollution as contamination or other alteration of physical, chemical, or biological properties of state waters which exceeds that permitted by the water quality standards.

5. Placement of Wastes (Applicable)

Section 75-5-605. MCA states that it is unlawful to place or cause to be placed any wastes where they will cause pollution of any state waters. Any permitted placement of waste is not placement if the agency's permitting authority contains provisions for review of the placement of materials to ensure it will not cause pollution to state waters.

6. Nondegradation (Applicable)

Section 75-5-303, MCA states that existing uses of state waters and the level of water quality necessary to protect the uses must be maintained and protected.¹

ARM 17.30.705 provides that for any surface water, existing and anticipated uses and the water quality necessary to protect these uses must be maintained and protected unless degradation is allowed under the nondegradation rules at ARM 17.30.708.

ARM 17.30.1011 provides that any groundwater whose existing quality is higher than the standard for its classification must be maintained at that high quality unless degradation may be allowed under the principles established in § 75-5-303, MCA, and the nondegradation rules at ARM Title 17, chapter 30, subchapter 7.

II. WASTE MANAGEMENT

A. Federal and State Hazardous Waste Management Regulations (Applicable)

The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq., and the Montana Hazardous Waste Act, §§ 75-10-401 et seq., MCA, and regulations under these acts establish a regulatory structure for the generation, transportation, treatment, storage and disposal of hazardous wastes. These requirements are applicable to substances and actions at the site which involve hazardous wastes.² This includes, but is not limited to, excavation, storage,

¹ Pursuant to MCA 75-5-317, the following sources of pollution are considered nonsignificant activities, and not subject to the nondegradation rules promulgated pursuant to 75-5-303:

- 1) existing activities (as of April 29, 1993) that are non-point sources of pollution;
- 2) existing activities after April 29, 1993 when reasonable land, soil and water conservation is applied and existing and anticipated uses will be fully protected
- 3) changes in existing water quality resulting from an emergency or remedial activity that is designed to protect the public health or the environment and is approved, authorized, or required by the department;
- 4) the use of fluids, sealants, additives, disinfectants, and rehabilitation chemicals in water well or monitoring well drilling, development, or abandonment, if used according to department-approved water quality protection practices;
- 5) discharges of water from water well or monitoring tests, hydrostatic pressure and leakage tests conducted in accordance with department-approved practices;
- 6) short-term changes allowed under 75-5-308 (short-term exemptions)
- 7) nonpoint sources that cause short-term changes in existing water quality resulting from customary activities involving the use of water established by an existing water right or state permit.
- 8) any other activity that is nonsignificant because of its low potential for harm to human health and the environment in conformance with the new criteria required to be established in 301(5)(c).

Although a number of the exemptions refer to nonpoint sources, it is important to note that the definition of point source is quite expansive. The term point source is defined to include any discernable, confined, and discrete conveyance from which pollutants are or may be discharged. 33 USC §1362(14). Therefore, exemptions for nonpoint sources should not affect the implementation of the nondegradation rules to remedial actions to any large extent

² Hazardous Waste Regulations (Applicable):

The Montana Hazardous Waste Act, §§ 75-10-401 et seq., MCA, and regulations under this act establishes a regulatory structure for the generation, transportation, treatment, storage and disposal of hazardous wastes. These requirements are applicable to substances and actions at the site which involve listed and characteristic hazardous wastes

ARM 17.54.302-352, substantially equivalent to RCRA regulations at 40 CFR Part 261, establish standards for the identification and listing of hazardous wastes, including standards for recyclable materials and standards for empty containers.

ARM 17.54.401-440, substantially equivalent to RCRA regulations at 40 CFR Part 262, establish standards that apply to generators of hazardous waste, including standards pertaining to the accumulation of hazardous wastes

ARM 17.54.501-528, substantially equivalent to RCRA regulations at 40 CFR Part 263, establish standards that apply to transporters of hazardous waste.

ARM 17.54.702 incorporates by reference the regulations at 40 CFR 264, Subparts B through BB, except 40 CFR 264, subpart H (financial requirements) and 264.75 (biennial reports). (All incorporations by reference are to the July 1, 1995 version of the CFR.) These regulations contain general facility standards, preparedness and prevention standards, contingency plan and emergency procedure standards, standards for releases from solid waste management units, closure and post-closure requirements, standards for the use and management of containers, and standards for tank systems, surface impoundments, waste piles, landfills, and miscellaneous units. Hazardous waste air emission standards are contained in subparts AA and BB

ARM 17.54.150 incorporates by reference the regulations at 40 CFR 268 pertaining to land disposal

Section 75-10-422 M.C.A. prohibits the unlawful disposal of hazardous wastes.



treatment, decontamination, and transportation. These requirements apply to all remaining contaminated substances at the site. Below are hazardous waste regulations which apply to the generation, transportation, treatment, and storage of hazardous wastes. Disposal of hazardous waste and decharacterized waste will occur off-site; the regulations for off-site disposal of hazardous wastes and off-site disposal of decharacterized wastes is independently applicable and may not be waived or modified. The standards listed below are the federal standards. The federal standards are expected to be adopted by the State of Montana during the public comment period on this addendum. Therefore, for simplicity, only the federal standards are listed. The State standards, however, remain applicable until new State rules are effective.

1. Identification and Listing of Hazardous Waste

Wastes may be designated as hazardous by either of two methods: listing or demonstration of a hazardous characteristic. Listed wastes are the specific types of wastes determined by EPA to be hazardous as identified in 40 CFR Part 261, Subpart D (40 CFR §§ 261.30 - 261.33). Listed wastes are designated hazardous by virtue of their origin or source, and must be managed as hazardous wastes regardless of the concentration of hazardous constituents. Characteristic wastes are those that by virtue of concentrations of hazardous constituents demonstrate the characteristic of ignitability, corrosivity, reactivity or toxicity, as described at 40 CFR Part 261, Subpart C. The wastes at the site demonstrate the characteristic of toxicity, and are therefore characteristic hazardous wastes. Because of the presence of characteristic hazardous waste, the substantive portion of the permit requirements specified in ARM 17.54.106 must be met.

Set out below are the hazardous waste requirements that are applicable for the types of waste management units or the waste management practices anticipated in the interim action.

2. Standards for Transporters of Hazardous Waste

The RCRA regulations at 40 CFR Part 263, establish standards that apply to transporters of hazardous waste. These standards include requirements for immediate action for hazardous waste discharges. These standards are applicable for any on-site transportation. These standards are independently applicable for any off-site transportation.

3. Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (40 CFR Part 264)

a. General Facility Standards

ARM 17.54.101-155 (including 17.54.111, Conditions of Permits) are substantially equivalent to RCRA regulations at 40 CFR Part 270, which establish standards for permitted facilities

The regulations at 40 CFR 264, Subpart B, establish general facility requirements. These standards include requirements for general waste analysis, security and location standards.

b. Releases from Solid Waste Management Units

The regulations at 40 CFR 264, Subpart F, establish requirements for groundwater protection for RCRA-regulated solid waste management units (i.e., waste piles, surface impoundments, land treatment units, and landfills). The regulations at Subpart F establish monitoring requirements for RCRA-regulated solid waste management units (i.e., waste piles, surface impoundments, land treatment units, and landfills). Subpart F provides for three general types of groundwater monitoring: detection monitoring (40 CFR § 264.98); compliance monitoring (40 CFR § 264.99); and corrective action monitoring (40 CFR § 264.100). Monitoring wells must be cased according to § 264.97(c).

Monitoring is required during the active life of a hazardous waste management unit. If hazardous waste remains, monitoring is required for a period necessary to protect human health and the environment.

c. Waste Containers and Tanks

40 CFR Part 264, Subparts I and J apply to owners and operators of facilities that store hazardous waste in containers, store or treat hazardous waste in tanks, respectively. These regulations are applicable to any storage or treatment in these units at the site. The related provisions of 40 CFR 261.7, residues of hazardous waste in empty containers, are also applicable.

d. Waste Piles

40 CFR Part 264, Subpart L, applies to owners and operators of facilities that store or treat hazardous waste in piles. The regulations include requirements for the use of run-on and run-off control systems and collection and holding systems to prevent the release of contaminants from waste piles. These regulations are applicable to any storage or treatment in waste piles at the site including the operation of the soil vapor extraction unit.

4. RCRA Land Disposal Restrictions

Since the wastes to be treated are characteristic wastes, the RCRA Land Disposal Restrictions (LDRs) treatment levels set forth in 40 CFR Part 268 are applicable requirements including underlying hazardous constituents. LDRs apply both to hazardous waste and decharacterized waste.

Land disposal restrictions typically set concentration levels or treatment standards that hazardous wastes must meet before they can be land disposed. These treatment standards typically represent best demonstrated available treatment technology (BDAT) for hazardous wastes. Any treatment technology may be used if it will achieve the specified concentration levels and is not otherwise prohibited.

For the primary contaminants of concern the LDR levels for characteristic wastes are set forth below. However, LDRs for all constituents, including underlying hazardous constituents (UHCs), must be met.

<u>Chemical</u>	<u>LDR Treatment Standard (mg/kg)</u>
Chlorobenzene	6.0
1,2-Dichlorobenzene	6.0
1,4-Dichlorobenzene	6.0
trans-1,2-Dichloroethene	30.0
Tetrachloroethene	6.0
1,1,1-Trichloroethane	6.0
Trichloroethene	6.0

5. LDR Treatment Levels for Hazardous Soil

40 CFR 268.2 [63 Fed. Reg. 28556 (May 26, 1998)], defines soil to include unconsolidated earth material. For those rocks on-site that are 60 mm or smaller, these standards are applicable. For all other substances (all of which will be treated and disposed off-site), these standards are independently applicable. Pursuant to 40 CFR 268.49 when treatment of any constituent subject to treatment to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than the Universal Treatment Standard are not required. Also, the remediated soil must be treated to be no longer characteristic. For the primary contaminants of concern the LDR levels for 60 mm or less remediated rocks are set forth below. However, LDRs for all constituents, including underlying hazardous constituents (UHCs), must be met.

<u>Chemical</u>	<u>LDR Treatment Standard (mg/kg)</u>
Chlorobenzene	60.0
1,2-Dichlorobenzene	60.0
1,4-Dichlorobenzene	60.0
trans-1,2-Dichloroethene	300.0
Tetrachloroethene	60.0
1,1,1-Trichloroethane	60.0
Trichloroethene	60.0

6. Treatment of Hazardous Debris

Pursuant to 40 CFR 268.45, Hazardous Debris must be treated pursuant to 261.3(f)(2) or one of the waste-specific treatment standards provided in Table 1 of 40 CFR 268.45 for hazardous debris. For those rocks on-site that are greater than 60 mm, these standards are applicable. For all other debris (all of which will be treated and disposed off-site), these standards are independently applicable.

7. Substantive Permit Requirements

40 CFR Part 270 sets forth the hazardous waste permit program. The substantive requirements set forth in 40 CFR Part 270, Subpart C (permit conditions), including the requirement to properly operate and maintain all facilities and systems of treatment and control are applicable requirements.

8. Transportation of Solid Waste

For solid wastes, § 75-10-212 prohibits dumping or leaving any debris or refuse upon or within 200 yards of any highway, road, street, or alley of the State or other public property, or on privately owned property where hunting, fishing, or other recreation is permitted.

ARM 17.50.523 requires that such waste must be transported in such a manner as to prevent its discharge, dumping, spilling, or leaking from the transport vehicle.

III. AIR QUALITY

The standards set forth below are applicable to the remedy.

A. Ambient Air Quality Standards (Applicable)

Under the federal Clean Air Act, 42 U.S.C. §§ 7401-7671q, the Administrator of the EPA is authorized and directed to promulgate national ambient air quality standards for specific air pollutants. See 42 U.S.C. § 7409. States are required to develop plans to implement, maintain and enforce such standards in their jurisdictions. 42 U.S.C. § 7410. Montana has adopted ambient air quality standards in ARM 16.8.801 et seq. The State standards are enforceable under State law and, to the extent the State standards are equivalent to the federal standards and are part of the EPA-approved State Implementation Plan, the State standards are also federally enforceable.

The following ambient air quality standards are applicable for any of the following that may be emitted at the site:

¹ The ambient standards for lead and PM-10 (ARM §§ 16.8.815 and 821) are enforceable under both State and federal law. The ambient standards for ozone and settled particulate matter (ARM §§ 16.8.817 and 818) are enforceable under State law.

ARM 17.8.213. Ambient air quality standard for ozone. No person shall cause or contribute to concentrations of ozone in the ambient air exceeding: 0.10 ppm 1-hour average.

ARM 17.8.220. Ambient air quality standard for settled particulate matter. Particulate matter concentrations in the ambient air shall not exceed the following 30-day average: 10 grams per square meter.

ARM 17.8.223. Ambient air quality standards for PM-10. PM-10 concentrations in the ambient air shall not exceed the following standards: 150 micrograms/cubic meter of air, 24-hour average; and 50 micrograms/cubic meter of air, expected annual average.

Each of the ambient air quality standards set forth above includes in its terms specific requirements and methodologies for monitoring and determining levels. Such requirements are also applicable requirements. In addition, ARM 17.8.205 and 17.8.206, Ambient Air Monitoring; Methods and Data, respectively (Applicable), require that all ambient air monitoring, sampling and data collection, recording, analysis and transmittal shall be in compliance with the Montana Quality Assurance Manual except when more stringent requirements are determined by DEQ to be necessary.

B. Emission Standards (Applicable)

Montana has promulgated standards to regulate emissions of certain contaminants into the air. See ARM 16.8.1401 et seq. The state emission standards are enforceable under the Montana Clean Air Act, §§ 75-2-101 et seq., MCA.

The following air emission standards are applicable at the site:

ARM 17.8.308. Airborne Particulate Matter. Emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20 percent or greater, averaged over six consecutive minutes. This standard applies to the production, handling, transportation, or storage of any material; to the use of streets, roads, or parking lots; and to construction or demolition projects.

ARM 17.8.304. Visible Air Contaminants. No source may discharge emissions into the atmosphere that exhibit an opacity of 20 percent or greater, averaged over six consecutive minutes. This standard is limited to point sources, but excludes wood waste burners, incinerators, and motor vehicles.

ARM 17.8.315. Odors. If a business or other activity will create odors, those odors must be controlled, and no business or activity may cause a public nuisance.

ARM 17.8.604 lists certain wastes that may not be disposed of by open burning, including oil or petroleum products, RCRA hazardous wastes, chemicals, and treated lumber and timbers. Any waste which is moved from the premises where it was generated and any trade waste (material resulting from construction or operation of any business, trade, industry or demolition project) may be open burned only in accordance with the substantive requirements of 17.8.611 or 612.

C. State Air Quality Permit Requirements (Applicable)

The department shall require such equipment, controls or procedures to provide reduction of air pollutants at least equivalent to reductions achieved through the best available control technology.

In addition, the permit requirements of ARM Title 17, Chapter 8, Subchapter 7, provide additional criteria and conditions applicable to issuance of an air quality permit, as discussed below.

ARM 17.8.705 requires that permits be obtained for the construction, installation, alteration, or use of specified air contaminant sources. This requirement is applicable. Although the Department has determined a waiver of the permit is appropriate pursuant to MCA 75-10-721(3), all substantive requirements of the permit must be observed.

ARM 16.8.715 requires sources for which air quality permits are required to use best available control technology (BACT) or to meet the lowest achievable emission rate (LAER), as applicable.

IV. OTHER LAWS

These laws are laws which are independently applicable rather than ERCLs for the site.

Surface Water and Groundwater Act, 85-2-101 *et. seq.* MCA

Section 85-2-101, MCA, declares that all waters within the state are the state's property, and may be appropriated for beneficial uses. The wise use of water resources is encouraged for the maximum benefit to the people and with minimum degradation of natural aquatic ecosystems.

Groundwater and Surface Water Appropriation

Parts 3 and 4 of Title 85, Chapter 2, MCA, set out requirements for obtaining water rights and appropriating and utilizing water. All requirements of these parts are laws which must be complied with in any action using or affecting waters of the state.

⁴ "Open burning" means combustion of any material directly in the open air without a receptacle, or in a receptacle other than a furnace, multiple chambered incinerator or wood waste burner ... ARM 16.8.1301(5)

Groundwater

Section 85-2-505, MCA, precludes the wasting of groundwater. Any well producing waters that contaminate other waters must be plugged or capped, and wells must be constructed and maintained so as to prevent waste, contamination, or pollution of groundwater.

Section 85-2-516, MCA, states that within 60 days after any well is completed a well log report must be filed by the driller with the DNRC and the appropriate county clerk and recorder.

Controlled Ground Water Area

Pursuant to section 85-2-507 MCA, the Department of Natural Resources and Conservation may grant either a permanent or a temporary controlled ground water area. The maximum allowable time for a temporary area is four years.⁵

Pursuant to 85-2-506 MCA, designation of a controlled groundwater area may be proposed if i) excessive groundwater withdrawals would cause contaminant migration; ii) groundwater withdrawals adversely affecting groundwater quality within the groundwater area are occurring or are likely to occur; iii) groundwater quality within the groundwater area is not suited for a specific beneficial use.

Occupational Safety and Health Act

The federal Occupational Safety and Health Act regulations found at 29 CFR § 1910 are applicable to worker protection during conduct of RI/FS or remedial activities.

Occupational Health Act, §§ 50-70-101 et seq., MCA.

ARM § 17.74.101, along with the similar federal standard in 29 CFR § 1910.95, addresses occupational noise.

ARM § 17.74.102, along with the similar federal standard in 29 CFR § 1910.1000 addresses occupational air contaminants.

Montana Safety Act

Sections 50-71-201, 202 and 203, MCA, state that every employer must provide and maintain a safe place of employment, provide and require use of safety devices and safeguards, and ensure that operations and processes are reasonably adequate to render the place of employment safe.

Employee and Community Hazardous Chemical Information Act

⁵ If a temporary controlled ground water area is granted, the statute requires DNRC to commence studies to determine the designation or modification of a permanent controlled ground water area.

Sections 50-78-201, 202, and 204, MCA, state that each employer must post notice of employee rights, maintain at the work place a list of chemical names of each chemical in the work place, and indicate the work area where the chemical is stored or used. Employees must be informed of the chemicals at the work place and trained in the proper handling of the chemicals.

Transportation of Hazardous Wastes or Materials

Standards for Generators of Hazardous Waste

The RCRA regulations at 40 CFR Part 262, establish standards that apply to generators of hazardous waste. These standards include requirements for obtaining an EPA identification number and maintaining certain records and filing certain reports. These standards are applicable for any waste which will transported off-site.

Standards for Transporters of Hazardous Waste

The RCRA regulations at 40 CFR Part 263, establish standards that apply to transporters of hazardous waste. These standards include requirements for immediate action for hazardous waste discharges. These standards are applicable for any off-site transportation.
